AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the claims:

1. – 53. (Canceled)

54. (Currently amended) A method for protecting, maintaining or enhancing the viability of a responsive cell, a tissue comprising a responsive cell, or an organ comprising a responsive cell, wherein said cell, tissue or organ is isolated from a mammalian body, comprising exposing said cell, tissue or organ to an effective amount of a pharmaceutical composition comprising a mutein recombinant tissue protective cytokine, wherein said mutein recombinant tissue protective cytokine

(a) comprises the amino acid sequence of SEQ ID NO:10 with a non-conservative substitution of an amino acid residue at one [[of]] or more of the following positions:
(i) 11 to 15 [SEQ ID NO:1];
(ii) 44 to 51 [SEQ ID NO:2];
(iii) 100 to 108 [SEQ ID NO:3]; or
(iv) 146 to 151 [SEQ ID NO:4];

(b) has a reduced level of *in vivo* erythropoietic activity compared to native erythropoietin as determined by the exhypoxic polycythemic mouse bioassay; and

(c) has tissue protective activity *in vivo* as determined by the middle cerebral artery occlusion test or *in vitro* as determined by the P19 assay.

55. (Previously amended) The method of claim 54, wherein the mutein recombinant tissue protective cytokine is nonerythropoietic.

56. (Previously amended) The method of claim 54, wherein the mutein recombinant tissue protective cytokine lacks at least one activity selected from the group consisting of

increasing hematocrit, vasoactive action, hyperactivating platelets, pro-coagulant activity and increasing production of thrombocytes.

57. (Currently amended) A method for protecting against ~~or preventing~~ a tissue injury, protecting, maintaining or enhancing the viability of a tissue, or restoring or rejuvenating ~~tissue or~~ tissue function in a mammal, comprising exposing said tissue to an effective amount of a pharmaceutical composition comprising a mutein recombinant tissue protective cytokine wherein said mutein recombinant tissue protective cytokine

(a) comprises the amino acid sequence of SEQ ID NO:10 with a non-conservative substitution of an amino acid residue at one [[of]] or more of the following positions:
(i) 11 to 15 [SEQ ID NO:1];
(ii) 44 to 51 [SEQ ID NO:2];
(iii) 100 to 108 [SEQ ID NO:3]; or
(iv) 146 to 151 [SEQ ID NO:4];

(b) has a reduced level of *in vivo* erythropoietic activity compared to native erythropoietin as determined by the exhypoxic polycythemic mouse bioassay; and

(c) has tissue protective activity *in vivo* as determined by the middle cerebral artery occlusion test or *in vitro* as determined by the P19 assay.

58. (Currently amended) The method of claim 57, wherein the mammal has or is at risk for cognitive dysfunction, a seizure disorder, chronic seizure disorder, epilepsy, convulsions, nerve root compression, myotonic dystrophy, muscular dystrophy, multiple sclerosis, stroke, hypotension, cardiac arrest, central nervous system injury, neuronal loss, ischemia, subdural hematoma, subarachnoid bleeds, aneurysm, aneurysmal bleeds, myocardial infarction, inflammation, age-related loss of cognitive function, radiation damage, chemotherapy damage, radiotherapy damage, whole brain irradiation damage, cerebral palsy, cerebral supranuclear palsy, progressive supranuclear palsy, neurodegenerative disease, Alzheimer's disease, Parkinson's disease, Huntington's disease, Tourette's syndrome, Leigh disease, Guillain Barre, dementia, AIDS dementia, senile dementia, Lewy body dementia, memory loss, amyotrophic lateral sclerosis, alcoholism, a neuropsychiatric or neuropsychological

disorder, mood disorder, anxiety disorder, anxiety, schizophrenia, schizoaffective disorder, obsessive-compulsive disorder, panic disorder, uni-polar affective disorder, depression, major depressive disorder, dysthymic disorder, mania, bi-polar affective disorder, attention deficit disorder, attention deficit hyperactivity disorder, autism, a prion disease, Creutzfeldt-Jakob disease, Friedrich's ataxia, Wilson's disease, trauma, concussive injury, brain or spinal cord trauma or ischemia, heart-lung bypass, neurological defects from heart-lung bypass, injury from a surgical procedure, injury from cardiopulmonary bypass, post-operative cognitive dysfunction, embolic injury, hypoxia, mitochondrial dysfunction, abdominal aortic surgery, heart injury, myocardium injury, heart trauma, chronic heart failure, eye tissue damage, macular degeneration, diabetic neuropathy, diabetic retinopathy, glaucoma, retinal ischemia, retinal trauma, retinitis pigmentosa, optic nerve damage, retinal detachment, arteriosclerotic retinopathy, hypertensive retinopathy, retinal artery blockage, retinal vein blockage, hypotension, a condition associated with hypoglycemia or diabetes, diabetes mellitus, nephrotic symptoms, acute renal failure, or hepatitis.

59. – 68. (Canceled)

69. (Withdrawn) The method of claim 57, wherein the mutein recombinant tissue protective cytokine is administered to the mammal prior to a surgical procedure.

70. (Withdrawn) The method of claim 69, wherein the surgical procedure is cardiopulmonary bypass surgery.

71. – 73. (Canceled)

74. (New) The method of claim 54, wherein the non-conservative substitution comprises one or more of the following amino acid changes: R10I, V11S, E13A, R14A, R14E, R14Q, Y15A, Y15F, Y15I, T44I, K45D, K45A, N47A, F48I, F48A, Y49A, W51N, S100R, S100E, S100A, R103A, R103E, S104A, S104I, T106A, T107L, L108K, L108S, S146A, N147K, N147A, R150A, R150E or G151A.

75. (New) The method of claim 57, wherein the non-conservative substitution comprises one or more of the following amino acid changes: R10I, V11S, E13A, R14A, R14E, R14Q, Y15A, Y15F, Y15I, T44I, K45D, K45A, N47A, F48I, F48A, Y49A, W51N, S100R, S100E,

S100A, R103A, R103E, S104A, S104I, T106A, T107L, L108K, L108S, S146A, N147K, N147A, R150A, R150E or G151A.

76. (New) The method of claim 74, wherein the non-conservative substitution comprises one or more of the following amino acid changes: K45D, S100E, R103E, R150E or the combination K45D/S100E.

77. (New) The method of claim 75, wherein the non-conservative substitution comprises one or more of the following amino acid changes: K45D, S100E, R103E, R150E or the combination K45D/S100E.